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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/578,712	01/10/2007	Toshikatsu Yoshino	Q94787	3364
23373 7590 08/03/2009 SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037				
EXAMINER				
DYE, ROBERT C				
ART UNIT		PAPER NUMBER		
1791				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/578,712

**Applicant(s)**

YOSHINO ET AL.

**Examiner**

ROBERT DYE

**Art Unit**

1791

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-8508)  
Paper No(s)/Mail Date 2/25/2008, 05/10/2006
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Inventor's Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
3. Claims 1-5, 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaneko et al. (USP 4,600,370, of record) in view of Irie (JP 59-081156, of record).
4. Kaneko et al. (hereinafter Kaneko) discloses a method for correcting the deformities in a green tire wherein a tire is placed on a support table (70, Fig. 16), a lower and upper bead correcting unit (upper 26, lower 32) comprised of a plurality of radially-extending pressing members (28, 44 and see Fig 2, 7, 16) are engaged with the lower and upper beads of the green tire and the height of the bead correcting units is adjusted (col 6, line 38- col 7, line 35). Kaneko teaches that "the asymmetric deformations resulting from viscous elasticity of the unvulcanized tire are removed

because the upper and lower bead portions 30 and 31 are supported in the opposite directions by the upper and lower arcuate segments" (col 7, lines 24-29).

5. Regarding the tire support table being provided with a lower tire bead correcting unit such that the tire surrounds the lower correcting unit when placed on the table, Kaneko discloses that the lower correcting unit is lowered into place and thus the support table does not 'provide' the unit. However, the location of the correcting is a mere matter of engineering design choice. In the same field of endeavor of support green tires to prevent deformation, Irie discloses that a bead engaging unit can be can be alternatively located above the support table or attached directly to the support table (see Fig. 4 and 5). It would have been obvious to a person having ordinary skill in the art at the time of the invention to locate the bead engaging unit on the support table as taught by Iries in the method of Kaneko for the purpose of providing a suitable location for securing the bead correction unit.

6. Regarding claim 2, Kaneko discloses that the upper bead member is moved vertically into position and that the unit can be turned to engage the arcuate segments with the bead (col 6, line 50-58).

7. Regarding claim 3, Kaneko et al. (hereinafter Kaneko) discloses an apparatus for correcting the deformities in a green tire comprised of a support table (70, Fig. 16), a lower and upper bead correcting unit (upper 26, lower 32) comprised of a plurality of radially-extending pressing members (28, 44 and see Fig 2, 7, 16) which engage with the lower and upper beads of the green tire and lifting means to separate the two units (col 6, line 38- col 7, line 35). Kaneko teaches that "the asymmetric deformations

resulting from viscous elasticity of the unvulcanized tire are removed because the upper and lower bead portions 30 and 31 are supported in the opposite directions by the upper and lower arcuate segments" (col 7, lines 24-29).

8. Regarding the tire support table being provided with a lower tire bead correcting unit such that the tire surrounds the lower correcting unit when placed on the table, Kaneko discloses that the lower correcting unit is lowered into place and thus the support table does not 'provide' the unit. However, the location of the correcting is a mere matter of engineering design choice. In the same field of endeavor of support green tires to prevent deformation, Irie discloses that a bead engaging unit can be alternatively located above the support table or attached directly to the support table (see Fig. 4 and 5). It would have been obvious to a person having ordinary skill in the art at the time of the invention to locate the bead engaging unit on the support table as taught by Iries in the method of Kaneko for the purpose of providing a suitable location for securing the bead correction unit.

9. Regarding claims 4 and 5, Kaneko disclose a plurality of sliding members 38, 40 which hold the first pressing members 44 (see Fig. 4) for sliding said members radially in the outward and inward direction (col 5, line 36-40). Said members are capable of being moved on one and the same circle. Elongate guide member 38 is construed as the sliding bar.

10. Regarding claim 7, Kaneko disclose that the second pressing member moving means includes a plurality of segments holding pressing members (segments 26 hold pressing members 28) which are driven radially by cylinder 16 (col 6, lines 41-44).

11. Regarding claim 8, Fig. 2 illustrates that the segments 26 which support the pressing members 28 are segments arranged at equal angular intervals.

12. Claim 6 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaneko et al. (USP 4,600,370, of record) in view of Irie (JP 59-081156, of record) as applied to claim 3 above, and further in view of Nakagawa et al. (USP 4,268,219, of record).

13. The combination of Kaneko and Irie disclose a bead correcting unit wherein pressing members are slid outwardly in the radial direction to engage with the bead of a tire.

14. Regarding claim 6, the combination does not teach the use of a cam disk with spiral slots for sliding pressing members as recited. However, the use of a cam disk with spiral slots for radially sliding tire support members is well known in the art. In the same field of endeavor of tire bead engagement devices, Nakagawa et al. (hereinafter Nakagawa) teach a device for sliding a plurality of pressing members in the radial direction wherein a cam with spiral slots is employed (rotary cam plate 29 with actuator 34 for driving movable members in the radial direction; col 5, line 64-col 6, line 11; see Fig. 7). It would have been obvious to a person having ordinary skill in the art at the time of the invention to employ a rotary cam device such as that taught by Nakagawa in the apparatus of Kaneko and Iries for the purpose of employing a device known to be suitable for radially engaging a green tire.

15. Regarding claim 11, the combination of Kaneko and Irie does not teach an apparatus comprising a stretchable tubular structure and links connected to the sliding members for radial movement. In the same field of endeavor of tire bead engagement devices, Nakagawa teaches means to radially extend sliding members via a stretchable tubular structure and link system (see Fig. 8, cylinder 49, links 53, 54; col 6, lines 18-44). It would have been obvious to a person having ordinary skill in the art at the time of the invention to employ a link system as taught by Nakagawa in the apparatus of Kaneko and Iries for the purpose of employing a device known to be suitable for radially engaging a green tire.

16. Regarding the combination described for claims 6 and 11, it would have been obvious to one of ordinary skill in the art at the time of the invention to substitute the extension systems disclosed by Nakagawa for the extension system of Kaneko because one of ordinary skill in the art would have been able to carry out such a substitution to achieve the predictable result of radially extending the sliding members. "The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *KSR Int'l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 82 USPQ2d 1385 (2007).

17. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaneko et al. (USP 4,600,370) in view of Irie (JP 59-081156) as applied to claim 3 above, and further in view of Fukuda (USP 5,830,513).

18. Regarding claims 9 and 10, the combination of Kaneko and Iries teach an apparatus comprising a means to radially move a plurality of sliding members to engage with a green tire. The combination does not teach the claimed upper/lower disk and bent lever as the sliding member driving means. In the same field of endeavor of driving means for sliding members in a tire apparatus, Fukuda teaches an upper bead engagement device comprising a disk with bent levers mounted to move the sliding members in a radial direction. It would have been obvious to a person having ordinary skill in the art to employ disks and bent levers as taught by Fukuda as the driving means of Kaneko and Iries for the purpose of employing a driving means known to be suitable for radially extending tire bead engagement members. Although a single disk is employed in Fukuda, the use of a second disk fixedly attached to the first disk is a mere matter of engineering design choice. The second disk with sliding members attached merely offsets the sliding members in the axial direction. The functionality and construction of the bent lever and disk remains substantially the same.

19. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kaneko et al. (USP 4,600,370, of record) in view of Irie (JP 59-081156, of record) as applied to claim 3 above, and further in view of JP58-018724 (of record).

20. Regarding claim 12, Kaneko teaches that the upper bead engagement device can be mounted on a swivel arm illustrated by 1. Kaneko does not expressly teach an adjacent stretchable rotary shaft. However such devices are well known in the art as illustrated by Fig 1 of JP58-018724 (hereinafter '724) which discloses a stretchable



shaft for positioning a bead unit. It would have been obvious to a person having ordinary skill in the art at the time of the invention to employ an adjacent stretchable shaft as taught by '724 in the apparatus of Kaneko and Irie for the purpose of providing a means to position and remove the bead engagement device from the center of the tire.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT DYE whose telephone number is (571)270-7059. The examiner can normally be reached on Monday to Friday 8:00AM to 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph S. Del Sole can be reached on (571)272-1130. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RCD

/Joseph S. Del Sole/  
Supervisory Patent Examiner, Art Unit 1791